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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,863	01/22/2004	Eino Jacobs	A02 3122 USB	5930
65913	7550	05/29/2009		
NXP, B.V. NXP INTELLECTUAL PROPERTY DEPARTMENT M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131				
EXAMINER				
VICARY, KEITH E				
ART UNIT		PAPER NUMBER		
2183				
NOTIFICATION DATE		DELIVERY MODE		
05/29/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

10/762,863

Applicant(s)

JACOBS ET AL.

Examiner

Keith Vicary

Art Unit

2183

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 12 May 2009 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☒ Applicant's reply has overcome the following rejection(s): All Double Patenting Rejections.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: 30-32.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____
13. ☒ Other: See Continuation Sheet

/Eddie P Chan/
Supervisory Patent Examiner, Art Unit 2183

Continuation of 13. Other:

Applicant first argues on page 3 that examiner's assertion that "variable length instructions are compressed in that they are not fixed length instructions and relatively smaller instructions in comparison to other instructions as they do not need any filler bits and they are compressed into memory from a standard fixed length implementation" is not supported by the cited reference of Eickemeyer.

However, while the entirety of this assertion may not explicitly be in Eickemeyer, Eickemeyer does disclose of variable length instructions, and examiner believes it would have been very readily recognized to one of ordinary skill in the art at the time of the invention that variable length instructions are smaller and thus compressed in comparison with their fixed-length equivalent (as explained in the assertion). As one example, the textbook "Computer Architecture and Implementation" by Harvey G. Cragon discloses on page 10 "CISC architectures use variable-length instructions to reduce the instruction bit budget and bit traffic. The reason for variable-length instruction is that simple instructions, such as a register-to-register ADD, could be encoded in one byte because no memory addresses are required. For other instructions, such as those requiring three memory addresses, the instruction is lengthened to provide the addresses. In other words, the length of the instruction will match the complexity of the instruction." (Note that the pertinent citation is also available via books.google.com) As disclosed by Cragon, the use of variable-length instructions reduces the overall number of bits required to implement instructions, as, to continue the example, the ADD instruction could be encoded in one byte as opposed to three. Therefore, it would be readily recognized that the disclosure of variable length instructions would teach the examiner's assertion to one of ordinary skill in the art at the time of the invention.

Applicant next argues on page 3 that Eickemeyer does not provide support for the assertion that variable length instructions are compressed into memory from a standard fixed length implementation.

However, as explained above, Eickemeyer discloses of a variable length instruction, and it would have been readily recognized to one of ordinary skill in the art at the time of the invention that a variable length instruction is compressed when compared to the corresponding fixed length instruction. Again, to use the example set forth by Cragon, an add instruction which is variable-length could be encoded only using one byte, as opposed to needing a number of bytes equal to the most complex instruction in a fixed length instruction set. Consequently, an instruction which is smaller also takes up less space in memory. A subsequent instruction then "moves in" to the free space that results from making an instruction a variable length instruction, thus compressing the instruction in the memory.

Applicant argues from pages 3-4 that Eickemeyer does not disclose of the assertion made by examiner regarding filler bits. Again, examiner believes one of ordinary skill in the art at the time of the invention would recognize that (to again use Cragon's example) enabling an add instruction to be only one byte as opposed to the number of bytes of the most complex instruction prevents the need for extending the add instruction to be that number of bytes, wherein the additional number of bytes correlates to what examiner informally referred to as filler bits. In other words, the use of variable length instructions precludes the necessity of adding additional bits to, for example, a simple add instruction, so that the length of the add instruction is the same as the most complex instruction.

Applicant argues on page 4 that the statement "[f]or example, a first instruction which indicates a next instruction begins in two bytes, wherein an instruction can be up to six bytes long, specifies that the next instruction is essentially compressed into memory by four extra bytes" merely points out that instructions can be of variable lengths, but does not necessarily mean that shorter instructions have been compressed. However, the statement, in the context of variable length instructions, means that the first instruction is two bytes long (because the next instructions begins in two bytes) as opposed to the first instruction being six bytes long, which would be the case in a fixed length instruction set. Given that the next instruction in memory is located immediately after the prior instruction, the next instructions is compressed towards the start of memory by four bytes.

Applicant argues on page 4 that a length field is not the same as "a format field that specifies an instruction compression format" as recited in the claim. However, the length field does properly meet the claimed limitation: the length field indicates where the subsequent instruction begins. Because the length field enables the subsequent instruction to be located in memory at a location which is before the location at which the subsequent instruction would be located in a fixed-length instruction set, the length field is thus specifying how much the subsequent instruction is being compressed.

This interpretation is valid in particular due to two reasons. The first reason is that the instant claim does not mandate, and the instant specification does not teach, that the format field in the first instruction is actually read and used to compress the second instruction. In contrast, the format field in the first instruction merely indicates in what manner the second instruction is compressed. Therefore, Eickemeyer's length field meets the claimed limitation as it provides an indication as to in what manner the second instruction is compressed (e.g., a length field of two bytes indicates that the second instruction is compressed by four bytes in memory, a length field of four bytes indicates that the second instruction is compressed by two bytes in memory). The second reason is that the claimed limitation of "instruction compression format" is extremely broad, thus enabling the compression of instructions in a memory (by using variable-length instructions rather than fixed length instructions) to meet the limitation.

Therefore, Eickemeyer's explicit teaching of variable length instructions, in conjunction with what is very readily recognized to one of ordinary skill in the art at the time of the invention regarding variable length instructions (as exhibited by Cragon), teach the claimed limitations as currently written.

Applicant again argues on page 5 that Colwell fails to disclose the limitation of "a first instruction including a format field that specifies an instruction compression format," or, in other words, an instruction that includes a field that specifies an instruction compression format. However, applicant again does not elaborate on why Colwell does not teach this limitation. As explicitly cited in the rejection, Colwell teaches that a representation of an instruction word (the claimed instruction) comprises a mask word (the claimed field that specifies an instruction compression format). Examiner recommends that applicant explicitly and timely explain how Colwell does not teach this limitation in order to further prosecution.

Applicant again argues on the second paragraph of page 5 that Colwell et al. does not teach or suggest using an instruction with a format field that specifies an instruction compression format. However, as stated in the preceding paragraph, Colwell does teach this limitation. Examiner recommends that applicant explicitly and timely explain how Colwell does not teach this limitation in order to further prosecution.

Examiner recommends amending the claims to prevent the broad interpretation which enables Eickemeyer to teach the claimed limitations, and elaborating upon how Colwell does not teach an instruction with a format field that specifies an instruction compression format, in order to further prosecution.

KV